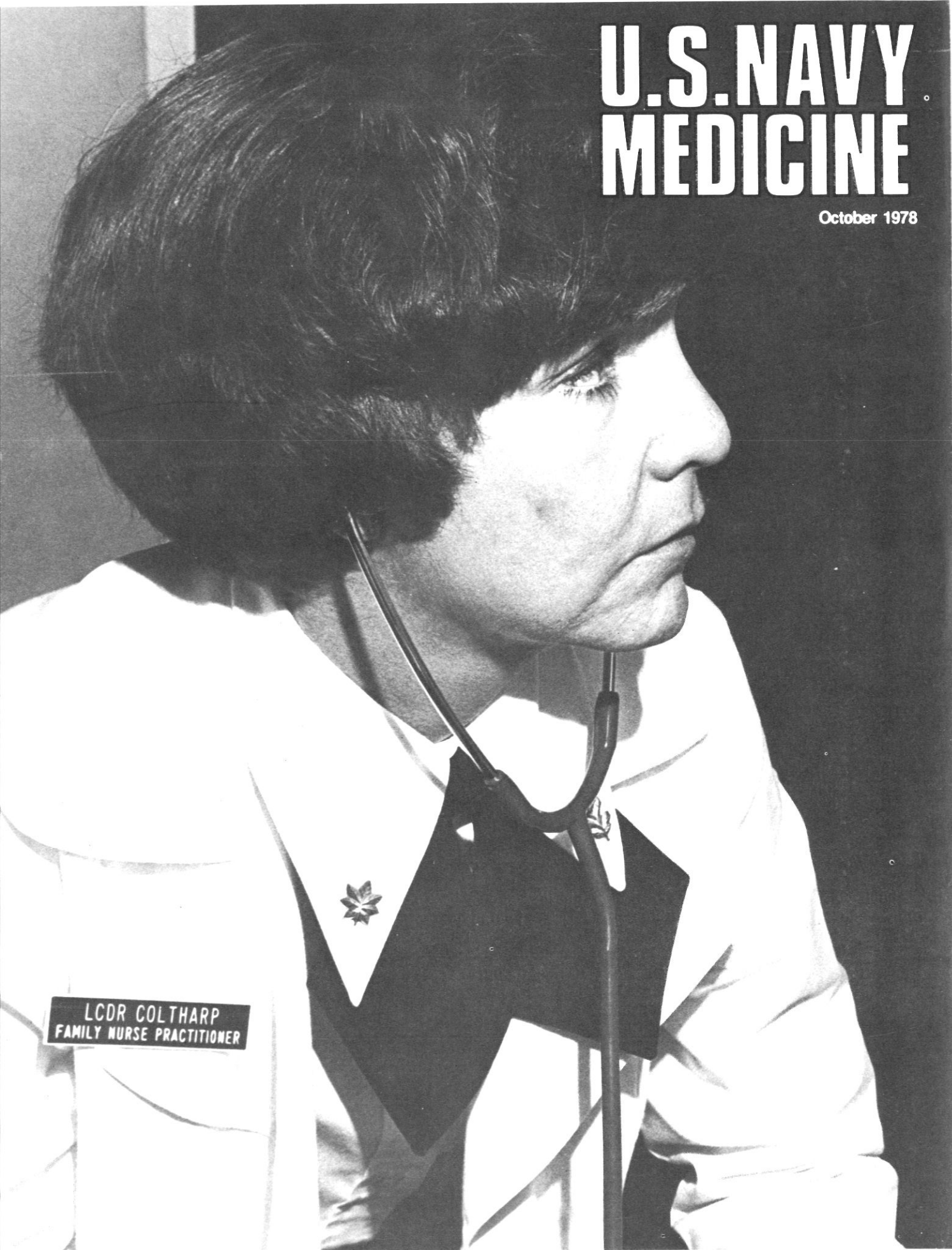


U.S. NAVY MEDICINE

October 1978



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U.S. NAVY MEDICINE

Vol. 69, No. 10
October 1978

1 From the Surgeon General

2 Department Rounds

Field Dentists with the 1st Marine Brigade . . . PA Named BUMED Consultant . . . NOTAP Data Analysis Begins

5 Safety

6 Notes and Announcements

8 Features

The Nurse Practitioner
LCDR C.H. Ingram, NC, USN

14 Scholars' Scuttlebutt

Naval Residencies: Dialogue Continued

17 NAVMED Newsmakers

18 Instructions and Directives

20 Education and Training

San Diego Courses for DTs Outlined

22 Dental Information Retrieval System

Planning for Tomorrow's Needs Today

23 Professional

Reducing the Crossmatch Time
LCDR W.P. Monaghan, MSC, USN

26 A Behavioral Treatment of Nocturnal Enuresis

LT M.R. Marcy, MSC, USNR
LT J.B. Hopkins, MSC, USNR
LT M.D. Cunningham, MSC, USNR

29 BUMED SITREP

COVER: At NRMC Corpus Christi, LCDR Dove Coltharp (NC) is a nurse practitioner: a new breed of nurse the Navy added to its health team several years ago. Just how well has the practitioner been accepted by coprofessionals—and by patients themselves? For some indications, see the article beginning on page 8.

From the Surgeon General

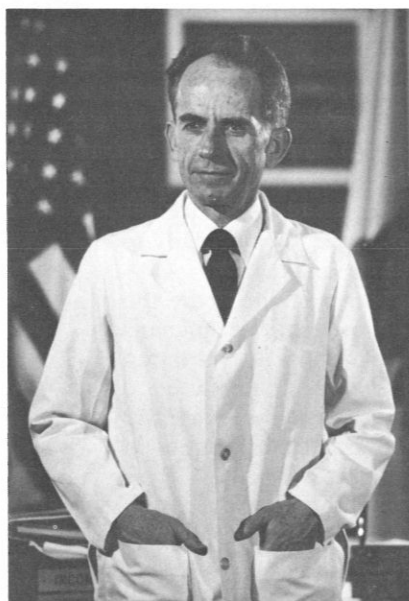
SAC X: New Spirit for the Days Ahead

The Surgeon General's Specialty Advisory Conference for 1978 has recently been concluded. I consider that it was a most fruitful and satisfactory meeting.

The details of many of the deliberations of the conference will be reported to you in the November and December issues of this magazine. I would like to relate now, however, that the tone of the meeting was positive, forward-looking, and in many respects innovative. I think that, with justification, the pall of "gloom and doom" that we have watched fall over the Medical Department is being lifted.

Constraints on resources of all kinds persist—but the decrements seem stabilized, and the spirit is to proceed with the job ahead.

If we are to accomplish our mission properly—that is, to render the best health care to our beneficiaries at sea and ashore—our system must have within it comprehensive training programs second to none. To this I have pledged my office, and I



require that this goal be of the highest priority.

In order that this goal be achieved, I ask all of you to join with me and the dedicated attendees of SAC X. Join us in continued loyalty and service to the Medical Department. Continue your roles as teachers, managers, and health-care providers, operationally as well as clinically.

We require the continued benefit of your talents and experience to succeed. Help me implement the spirit of SAC X.

W.P. ARENTZEN
Vice Admiral, Medical Corps
United States Navy

Department Rounds

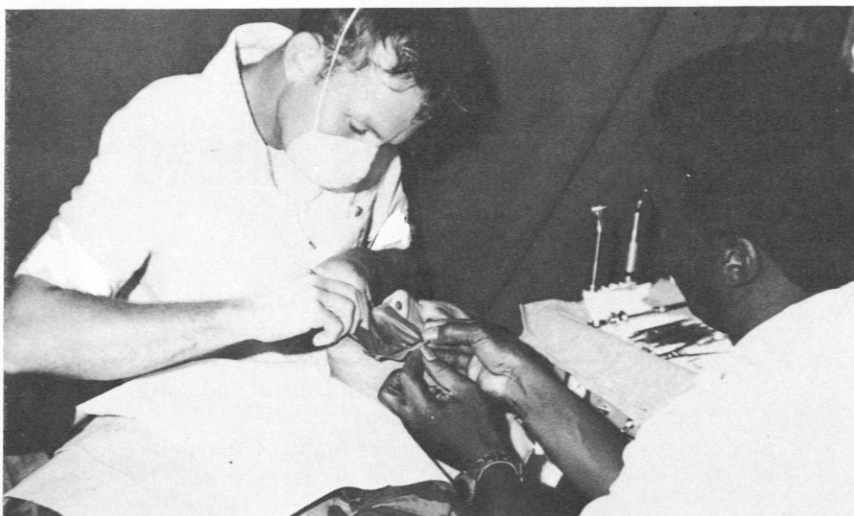
Field Dentists with the 1st Marine Brigade

For the 1st Marine Brigade, Kaneohe Bay, Hawaii, constant training for any possible contingency is a must.

And for the 21st Dental Company—whose job is to keep the “bite” in the brigade—there’s an equivalent training effort to ensure that company personnel are always ready to move out with the marines.

In each quarter of the year, the company’s officers and technicians stage a week-long field-training exercise that has two objectives:

- to keep personnel fully familiar with dental treatment techniques in the field, and
- to test dental operating equipment under actual field conditions.



Company personnel keep current on field treatment techniques.



The company’s field tents provide efficient working space for 4 dental officers and 5 technicians.

Official U.S. Marine Corps photos

When the company arrives at its field destination, four general-purpose tents are erected, each large enough to provide efficient working space for four dental officers and five dental technicians.

Two of the tents are used exclusively for providing routine dental treatments. The third tent contains two field operatories and a field X-ray unit, and can be used for screening examinations and emergency treatment. The fourth tent provides a waiting room and storage area.

To erect a tent and set up all its equipment takes a mere 50 minutes, exclusive of electrical wiring.

For its week in the field, the company routinely takes with it all the equipment and supplies needed for 10 dental officers to operate for 30 days in the field. Field hospital sinks and autoclaves are set up in each operating tent, and two field X-ray units are on hand, as well as automatic film developers.

During the company's most recent training exercise, its personnel were set up and ready to receive patients by the afternoon of the first day in the field. More than 200 patients were seen in the first three days of the exercise, receiving the same level of care they would have been given in a permanent dental facility.

In the course of the exercise, all company personnel gained hands-on experience in setting up, working with, and breaking down each piece of equipment. At the exercise's completion, all equipment was field stripped, cleaned, and replaced in containers to await its next use.

With this continual, vigorous training, the 21st Dental Company sees to it that its marines—whether in the field or in garrison—run no risk of losing their "bite."

PA Named BUMED Consultant

The Navy Medical Department's physician's assistants now have an active-duty representative serving as a consultant to the Medical Corps Division (Code 31) of BUMED.

The PA consultant will act as an "ombudsman" and serve as liaison between BUMED and some 240 physician's assistants in the field.

The new consultant is CWO2 John E. Tissot, one of the original 51 selectees for the Physician's Assistant Program. He completed his didactic training in the program at Sheppard Air Force Base, Wichita Falls, Tex., in February 1974, and his clinical rotation at NRMCC Charleston, S.C., the next year.

Currently, CWO2 Tissot is assigned to the General Practice Clinic and the Internal Medicine Clinic at NRMCC Charleston. He will be making periodic trips to BUMED as required in performance of his consultant duties, and one of his first efforts will be to make personal contact with all Navy PAs for their suggestions.

"My position as a consultant," he explains, "is a specific way to provide two-way communication: to bring needs and ideas from PAs in the field to the attention of the Surgeon General, and to bring ideas from the Surgeon General to the PAs."

CWO2 Tissot entered the Navy in 1966 and graduated from Hospital Corps "A" School at Great Lakes, Ill., in 1967. Subsequently he completed Field Medicine Technician training in 1967 at Camp Lejeune, N.C., and Nuclear Submarine Medicine Technician training in 1970 at New London, Conn.

From December 1967 to November 1968, he served with the First Reconnaissance Battalion, First Marine Division, in Vietnam.

Tissot was commissioned a warrant officer in March 1975, upon completing training under the Phy-



CWO2 Tissot

sician's Assistant Program. That same year he also completed requirements for a B.S. degree from the University of Nebraska. In March 1976, he was promoted to CWO2.

"The PAs have proven themselves as professionals," he says. "As professionals, we are being extended the privilege of having a voice in the control of our program."

"I think PAs are a significant force. If we are allowed to function as we were trained, then I think we can help maintain the high standards of Navy medicine."

NOTAP Data Analysis Begins

As reported earlier (see the April and June issues of *U.S. Navy Medicine*), the Navy Occupational Task Analysis Program (NOTAP) is working with the Navy Medical Department on a thorough examination of various specialties of the hospital corpsman rating.

Now the NOTAP study has moved into a new phase: data analysis. In May of this year, the first of 507 completed task-inventory questionnaires from corpsmen in the "Independent Duty/Afloat" specialty began being fed into the hungry computers of the Navy Occupational Development and Analysis Center

at the Washington Navy Yard.

The "Afloat" analysis will be followed by analyses of questionnaires from corpsmen assigned to Fleet Marine Force units and from the "clinical specialists"—radiology technicians, pharmacy technicians, laboratory technicians, etc.

NOTAP data will contribute to the updating of school curricula, occupational standards, and rate training manuals, as well as to advancement in rate exams to meet the changing demands of the Navy Medical Department.

Central office established. NOTAP, the Bureau of Medicine and

Surgery, and the Naval Health Sciences Education and Training Command have established a central office at the National Naval Medical Center, Bethesda, for conduct of the Hospital Corps task analysis. This joint effort will thoroughly review current management and training policies and practices and will solicit additional comment and opinion from other commands when appropriate.

Questions or comments concerning NOTAP should be directed to HMCM Fred A. Burkhart, HM1 David B. Crockett, or HM1 Louis C. Gerecz, Navy Occupational Task Analysis Program, Building 141, Room B-13, National Naval Medical Center, Bethesda, Md. 20014. Telephone: Commercial (202) 295-1486; Autovon 295-1486.



At the Washington Navy Yard, CDR J.D. Holland, USN, who directs the Navy Occupational Development and Analysis Center, feeds the first of 507 "Afloat" questionnaires into an optical scanning device. CDR Walter A. Godfrey (MSC), former Hospital Corps Director (now Director of Administrative Services at NRMC Corpus Christi), looks on.

In the past, this column has been devoted to synopses of pertinent safety standards and the ways they relate to Navy medical facilities. This month, several items that have surfaced recently will be commented on.

NFPA 76B, proposed Standard for the Safe Use of Electricity in Hospitals, was prepared and presented to the National Fire Protection Association (NFPA) for adoption, but was not approved.

The draft, presented at the association's annual meeting, addressed the performance criteria for patient-care areas in new construction, and for new equipment to be used in patient-care areas. The American Hospital Association (AHA) objected to the standard because in its view the effect of the document would be to add to the steady increase in health-care costs without adequate documentation of the existence of hazards to patients.

Documentation of unsafe conditions or incidents is as difficult as projection of the cost of implementation of any given standard. The data that can be gained by reporting unsafe or hazardous incidents will help to replace theory in these standards with reality. In the meantime, the Navy is meeting with the Army and the Air Force to produce a standard on the safe use of electricity in medical treatment facilities to fill the void left by this action of the NFPA.

Should there be any reports of incidents or comments to be made on this new triservice standard, please send them to CAPT J. P. Swope, MC, USN, Department of the Navy, Bureau of Medicine and Surgery (Code 416), Washington, D.C. 20372.

NFPA 56A, Standard for the Use of

Inhalation Anesthetics, was revised and was also presented for adoption at NFPA's annual meeting. Amendments were offered from the floor to:

- make isolation transformers optional in nonflammable anesthetizing locations;

- remove the requirement for the 5-foot hazardous level in flammable anesthetizing locations and replace the hazardous location with a 25-centimeter distance from the source of flammable agents;

- remove the requirement for electrical equipment in flammable anesthetizing locations to be explosion-proof.

These amendments were disapproved by the NFPA 56A Technical Committee. The document will be issued without the amendments unless the Standards Council or the Board of Directors reverses the Technical Committee's action.

AHA is pursuing an appeal to the Standards Council of NFPA to reverse the action of the Technical Committee and institute the amendments. Until the controversy over this document is resolved, the previous standard applies. Operating room humidity will still have to be recorded daily, and hospitals throughout the entire country will have to continue to expend energy to humidify their OR suites.

BUMED Code 416 is the Navy Medical Department's contact with the Joint Commission on Accreditation of Hospitals (JCAH) for safety, sanitation equipment and facilities.

Items that have been resolved include the need for checking the conductive floor when no-flammable agents are used, and the need for openable windows in patients' rooms. In the first instance, conductive floors need only be tested once a year if they can be shown to

have an average conductivity of greater than 25,000 ohms average resistance. The problem of openable windows in patients' rooms has been alleviated by JCAH's interpretation that it is sufficient to have the key or tool required to open the window in a red box, similar to an elevator emergency key box, in the patient's room.

BUMEDINST 10330.2 concerning medical gas pipeline systems was issued on 3 March 1978. Since then, many inquiries have been received at BUMED as to who is required to do the testing, how it is to be done, and where the equipment for it can be obtained.

The instruction was issued because of reports in the literature that had documented contaminated pipelines. The Naval Facilities Engineering Command has issued a Guide Specification similar to the BUMEDINST. It is recommended that the testing be done on a contract basis. One available firm is Gollob Analytical Service, Inc., Berkeley Heights, N.J.

With the advent of computers and digital signal processors and their incorporation into the various specialties of the hospitals, concern for transient overvoltages in the utility power supply has emerged.

One solution to many of the problems in this area is presented by CHESNAVFACENGCOM Technical Bulletin No. 19 of July 1978—"Application/Installation Instruction for Power Line Transient Suppressors"—which can be procured from Chesapeake Division Naval Facilities Engineering Command, Building 57, Washington Navy Yard, Washington, D.C. 20374.

—CAPT John P. Swope, MC, USN,
BUMED Code 416

Notes & Announcements

In memoriam . . . CAPT Howard H. Montgomery, MC, USN (Ret.), a former Navy physician who served 34 years with the Navy Medical Corps, died 10 Sept 1978, at age 83.

Born in Washington, D.C., CAPT Montgomery earned his M.D. degree from George Washington University in 1917. Following graduation, he entered the U.S. Navy and subsequently served in many assignments including sea duty aboard the cruiser *Pensacola* and the battleship *Texas*. He also served at the submarine base in Panama; U.S. Naval Academy, Annapolis, Md.; Naval Hospital Philadelphia, Pa., where he was commanding officer; and at BUMED. CAPT Montgomery retired in 1951.

CAPT Montgomery held the Legion of Honor from France and the Navy Commendation Medal.

Dental continuing education courses . . . The following dental continuing education courses will be offered in January 1979:

National Naval Dental Center, Bethesda, Md.

Oral Pathology	8-12 Jan 1979
Removable Partial Dentures	22-24 Jan 1979

Eleventh Naval District, San Diego, Calif.

Removable Partial Dentures	8-10 Jan 1979
Oral Pathology	22-26 Jan 1979
Maxillofacial Prosthetics	29-31 Jan 1979

U.S. Army Institute of Dental Research, Walter Reed Army Medical Center, Washington, D.C.

Oral Surgery	8-11 Jan 1979
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Requests for courses administered by the Commandant, Eleventh Naval District, should be submitted to: Commandant, Eleventh Naval District (Code 37), San Diego, Calif. 92132. Applications for other dental continuing education courses should be submitted to: Commanding Officer, Naval Health Sciences Education and Training Command (Code 5), National Naval Medical Center, Bethesda, Md. 20014. Applications should arrive six weeks before the course begins.

Supercourse on lung diseases . . . The Fourth Annual New Orleans International Supercourse on lung diseases will be held 12-16 Dec 1978 at the Hyatt Regency Hotel, New Orleans, La.

"Supercourse" is an intensive postgraduate program

consisting of three separate courses running concurrently for five days:

(1) *15th Annual Pulmonary Function in Health and Disease Course* is designed for the physician and will cover topics such as meaning and interpretation of lung function, lung response to injury, brain stem control of ventilation, shortness-of-breath syndromes, and monitoring the critically ill patient.

(2) *11th Annual Respiratory Care Course* will include topics on nursing and respiratory priorities in the ICU, respiratory monitoring of the future, quality control in a respiratory care department, and the team approach to respiratory care. There will be an afternoon session on the rehabilitation and home care of the lung patient. This program is designed for the respiratory care team and is geared for physicians, nurses, and respiratory therapists who specialize in the treatment and management of lung patients.

(3) *8th Annual Pediatric Pulmonary Course* will be devoted to management of the infant in the intensive care unit. This course is primarily for physicians, but special seminars are included on the program for nurses and respiratory therapists who work in pediatric pulmonary departments.

The annual program is sponsored by the American Lung Association of Louisiana and its medical section, the American Thoracic Society of Louisiana. Accreditations for the courses are from the American Medical Association in Category I, the American Academy of Family Physicians for prescribed hours, and the American Association of Critical-Care Nurses.

Tuition for the course will be \$225. For additional information and complete programs, write to ATS of Louisiana, 333 St. Charles Ave., Suite 500, New Orleans, La. 70130.

AFIP courses offered . . . The Armed Forces Institute of Pathology will offer the following courses:

Head and Neck (Otolaryngic) Pathology Seminars 11-13 Dec 1978

This clinically-oriented course will provide a review and update of pathology of the head and neck area related to salivary gland disease and neoplasia. Presentations will have a clinicopathology format designed for otolaryngologists, head and neck surgeons, oral surgeons, and pathologists.

Priority will be given applicants who are members of the Medical Corps of the Armed Forces or federal services in residency training in otolaryngology and pa-

thology specialties. Applicants who are military and federal medical service specialists in otolaryngology and pathology will be considered second. Applications from qualified civilians will be considered on a space-available basis.

Seminars in Diagnostic Radiology 8-12 Jan 1979

These seminars are designed to offer radiology practitioners a summary of the most important morphological principles that underlie the evaluation of roentgenologic signs. Materials have been carefully chosen to achieve maximum radiologic-pathologic correlation in the elucidation of disturbed morphology as seen on roentgenograms. An added feature of the course will be an emphasis on radiologic study and evaluation in oncology, with particular stress on differential diagnosis and detection.

Applicants should be members of the Medical Corps of the Armed Forces or federal services, or civilians with specialty training in radiology.

Neuropathology 15-19 Jan 1979

This course consists of a series of compact lectures in neuropathology. The lectures are designed as a general review of the fundamentals of neuropathology, with emphasis on modern trends and interpretations. The lectures will be illustrated by gross and microphotographs. A limited number of study sets of slides are available for loan, on a first-come-first-served basis, from the American Registry of Pathology, AFIP, and may be checked out during the course or by writing to the Registry at other times.

Applicants must possess a doctoral degree and should be members of the Medical Corps, Dental Corps, or Veterinary Corps, with special interest in neuropathology. Applications from qualified civilians will be considered on a space-available basis.

Further information may be obtained by writing to the Director, Armed Forces Institute of Pathology, ATTN: AFIP-EDZ, Washington, D.C. 20306.

Occupational health workshop . . . The 21st Navy Occupational Health Workshop will be held 11-15 Dec 1978 at the Cavalier Hotel, Virginia Beach, Va. In addition to the workshop, Continuing Education Seminars will be given 9-10 Dec 1978.

The workshop is directed to physicians, nurses, industrial hygienists, medical safety officers and program managers, and should be of special interest to people in federal occupational health programs. Topics to be discussed include radiation health, toxicology, asbestos, dental ventilation, ergonomics, welding hazards, waste anesthetic gases, optical hazards, hearing conserva-

tion, environmental epidemiology, dermatitis, occupational health nursing, and glaucoma screening.

There is no registration fee. For further information write to LT G. E. Williams or Ms B. E. Halterman, Navy Environmental Health Center, 3333 Vine Street, Cincinnati, Ohio 45220. Telephone (Area code 513) 684-3863 or Autovon 989-3863.

NAMI needs flight surgeon information . . . The Naval Aerospace Medical Institute (NAMI) in Pensacola would like to update its records concerning flight surgeons who have died on active duty. The information will also be used to update NAMI's memorial plaque.

Anyone who knows of a naval flight surgeon who died on active duty, particularly within the past 15 years, is requested to notify NAMI. Information should include name, rank, date and place of death and should be addressed to Commanding Officer (Code 013), Naval Aerospace Medical Institute, Naval Air Station, Pensacola, Fla. 32508. Telephone: Commercial (904) 452-2240; Autovon 922-2240 or FTS 948-2240.

Tuition assistance for part-time outservice training . . .

Medical Department personnel are encouraged to take advantage of part-time outservice training in accredited civilian institutions. However, in recent months several requests for tuition assistance have been disapproved because of late submissions and delays in mail delivery. BUMEDINST 1500.7D specifies that requests be submitted prior to actual commencement of requested courses of instruction when practicable, *but in all cases no later than 20 days after the course has commenced*. Consideration will be given to late submissions, but legal restrictions on payment of after-the-fact obligations must be applied when requests are received after the course is completed. In order to ensure favorable consideration of tuition assistance requests, applicants should inquire via their commands regarding the status of their requests, if they have not received notification of approval or disapproval within three to four weeks following submission.

Inquiries should be addressed to: Commanding Officer, Naval Health Sciences Education and Training Command (Code 12), National Naval Medical Center, Bethesda, Md. 20014. Telephone: Autovon 295-1515. Commands are encouraged to forward photocopies of unanswered requests and endorsements via telecopier (295-1040) when necessary to ensure timely receipt.



LCDR Dove Coltharp is one of the new breed of nurse practitioners.

The Nurse Practitioner

A look at how this new member of the health manpower team is doing, both with patients and with fellow professionals

LCDR Charles H. Ingram, NC, USN

The nurse practitioner has come into being in response to problems of inequitably distributed medical manpower, increasingly expensive health care, and the relatively small number of physicians interested in practicing primary medicine (1).

Historically, the concept of health care in America has been synonymous with care by doctors (2). But more recently, increasing demands for health care and critical shortages of physicians have stimulated changes in the health-care-delivery system. Other professionals have claimed portions of health care as their domain (2).

One result has been the development of various types of "nurse practitioner" roles, designed to relieve the physician of many routine tasks and provide the nurse with a nonadministrative avenue for upward mobility within nursing (3).

The phrase often used to describe this development is "expanded role of the nurse." It refers to an extended scope of nursing practice that includes such responsibilities as obtaining the patient's health history, assessing health/illness status, and entering the patient in the health-care system (2).

Outside the military health-care community, clear definitions of nurse-practitioner roles, objectives, education and training, functions, and role relationships are at present hard to find (3). Perhaps this is due to the relative newness of the nurse in the expanded role of practitioner of health care.

In the U.S. Navy, use of specialty-trained nurse practitioners was inaugurated to augment physician resources for delivery of primary health care in both outpatient and inpatient settings. The specific specialty areas designated for this expanded role are pediatrics,

obstetrics and gynecology, and family practice (3).

This is appropriate. Today's registered nurse is achieving higher levels of education than ever before. Licensing requirements are being updated throughout the United States. Nurses attaining high levels of achievement in certain specialty areas can now be certified as well as licensed (4). The nurses provide direct services, usually in conjunction with a physician, to individuals, families, and other groups in a variety of settings.

Webster's dictionary defines "practitioner" as "one who practices a profession"; thus the term can be applied to any profession—medicine, law, dentistry, pharmacy, nursing, etc.

Educators in baccalaureate and higher degree programs in nursing have for many years perceived their mission to be the preparation of practitioners at the generalist and specialist levels (5). But perhaps the nurse has in the past been too often identified as one who is engaged in paperwork or in other non-nursing tasks. Too often, perhaps, he or she has been perceived as one who directs, teaches, or supervises others giving direct care (5). This may be the reason the title "nurse practitioner" often seems alien both to the nurse's co-professionals and to patients.

Indeed, the idea of the nurse practitioner as a provider of direct patient care can be difficult for some health-care consumers to understand. Frequently the patient will identify the nurse practitioner as a "doctor," even though the difference has been carefully explained.

It is difficult to explain why it has been considered less prestigious for the nurse to give direct patient care than for others to do so. Yet, when one examines history, that is precisely what happened, particularly during and following World War II. Direct nursing care was delegated to nurses' assistants, licensed practical nurses, and nurses' aides (5). Registered nurses are

LCDR Ingram is clinical coordinator of the Internal Medicine Clinic, NRMCC Corpus Christi, Tex. 78419.



LTJG Virginia Stonebraker, pediatric nurse practitioner at NRMCC Corpus Christi, checks young patient.

only now regaining some of their lost prestige and establishing territoriality on the health-care team as providers, rather than as directors, of care.

BUMED Instruction 6550.4 defines the Navy family nurse practitioner as "a registered professional nurse who has acquired additional knowledge and skills as a result of an organized educational program recognized by the Bureau of Medicine and Surgery. This education prepares the nurse," the instruction continues, "to function in the expanded role in delivering comprehensive health care and health maintenance to all age groups in ambulatory settings as a collaborative member of the health team."

The instruction's definitions of the pediatric nurse practitioner and the obstetric/gynecological nurse practitioner are similar, but denote the subject areas of clinical practice.

First and foremost, of course, the nurse practitioner is a nurse, whatever title he or she carries. But the practitioner is uniquely characterized by independence. And this independence may be perceived by coprofessionals as an invasion of their professional territory, especially where the nurse practitioner is new and unknown to coprofessionals (2).

Despite their higher levels of education, nurses have encountered problems in taking on more responsible roles. Traditionally, the physician-nurse relationship has been one of extreme superordination-subordination. Until recently, many physicians simply did not think of nurses as being capable of independent, or even cooperative, decision-making (6). Some continue to feel that way today, although in 1970 the American Academy of Pediatrics and the American Medical Association both issued statements supporting expansion of the nurse's role.

Perhaps the largest hurdle for nurses to overcome has been their own psychological barrier: the feelings they have about themselves. Many cannot conceptualize themselves as being able to make diagnostic decisions. They have, of course, been making them for years but have protected themselves with elaborate games that cast the physician—the captain of the team—in the role of the only legitimate decision-maker (7).

Many leading nursing educators argue, on a conscious philosophical level, that the nursing role should focus primarily on the social and psychological problems that accompany illness, rather than on patients' complaints (7). This is health care divided into "cure" and "care."

The women's liberation movement has enlightened many and has helped to remove much of this kind of prejudice. As society gives more autonomy to all women, nurses are encouraged to take on more responsibility for decision-making in patient care.

The entrance of more men into nursing is also helping the profession overcome some of the psychological barriers to role expansion, since most men feel foolish playing the "doctor-nurse game."

As a result of these trends, some long-needed honesty seems now to be creeping into the interaction of nurses and physicians (7).

How is the nurse practitioner gaining "professional territoriality" in order to give direct patient care?

The avenues are three: professional organizations, legislation, and education (2).

Professional organizations demarcate the line between authorized and unauthorized practice. The professional organization must interpret practice, resolve disputes, and collaborate with other organizations in reaching settlements on territorial boundaries. Perhaps this is why we have seen increased rapport among the American Medical Association, the American Nurses Association, and other organizations these past few years.

The second avenue, legislation, defines areas of expertise and areas of unauthorized practice (2). Recent changes in Nurse Practice Acts in many states are a welcome sign of response to the movement for expansion of the nurse's role (6), but this does not mean that all problems on the legal front have been solved.

The third avenue through which professional territoriality is being established is education. Once a function is taught in a curriculum and is widely accepted by the profession, it becomes a part of the practice of that profession (2). (An example frequently used is that of the nurse's taking blood pressure—a function that at one time was considered to belong exclusively to the physician.)

Since knowledge is expanding exponentially, the nursing profession is rapidly acquiring role extension (2). But this evolution adds further strain to territorial boundaries.

TABLE 1. Questionnaire Respondents

	Seeing Physician (21 patients)	Seeing Nurse Practitioner (30 patients)
Age 17-50	50%	47%
Age 50 +	50%	53%
Males	55%	44%
Females	45%	56%
Active duty	32%	10%
Retired	41%	37%
Dependents (active duty)	5%	10%
Dependents (retired)	22%	43%

Nevertheless, though conflicts of professional territoriality exist, the nurse practitioner seems to have won a definitive place in the health-care community. But how does the patient-consumer view these new members of the health-care team? Is the patient satisfied with care delivered by someone other than a physician? Are the consumer's needs being met?

These are questions we need to research and answer, so that the nurse practitioner can meet patients' needs more fully.

As a start in this direction, the writer administered a questionnaire (Figure 1) to a mixed patient population in the Internal Medicine Clinic at NRMCC Corpus Christi, where one nurse practitioner and two medical officers offer services. All three see male and female, active-duty and retired personnel.

The patients were selected randomly and instructed to fill out the questionnaire after they had seen the health-care provider that day. A sample of 100 patients was attempted, but because the number of appointments was limited as a result of leaves (the survey was

TABLE 2. Patients' Identification of Practitioner

% of patients identifying physician as physician	86%
% of patients identifying physician as nurse practitioner	5%
% of patients identifying physician as other personnel	9%
% of patients identifying nurse practitioner as nurse practitioner	77%
% of patients identifying nurse practitioner as physician	10%
% of patients identifying nurse practitioner as other personnel	13%

FIGURE 1. Health Care Survey Questionnaire

We in the Internal Medicine Clinic are interested in the care rendered to you. In order to help us find out how we can do a better job, we are asking you to answer this survey about the care you just received. Your answers will be kept private so you can feel free to answer the questions in a straightforward and honest way. Please check one answer for each question.

Thank you very much for your help and if you have any problem with the questions, please ask for help.

1. How would you rate the medical attention you received today? Was the medical attention given better than what most people get, about the same, or not so good?

- a. Better
 - b. About the same
 - c. Not so good

(Scored 3-1)
2. How would you regard your visit today as compared to a usual visit?

- a. Better than most visits
 - b. About the same
 - c. Not so good

(Scored 3-1)
3. How well do you feel you understand your present condition?

- a. Very well
 - b. I understand
 - c. Not sure
 - d. Don't understand it well

(Scored 4-1)
4. Which statement describes the person(s) who gave you medical attention today?

- a. Extremely friendly
 - b. Very friendly
 - c. Friendly
 - d. Not friendly

(Scored 4-1)
5. How comfortable did the person giving you medical attention make you feel?

- a. Extremely comfortable
 - b. Very comfortable
 - c. Comfortable
 - d. Not very comfortable

(Scored 4-1)
6. Would you say the person giving you medical attention . . .

- a. Spent enough time with you
 - b. Spent too little time with you
 - c. Spent more than enough time with you

(Scored 3-1)
7. Did you feel that the person rendering care to you understood your problems?

- a. Understood very well
 - b. Understood somewhat
 - c. Didn't understand very well
 - d. Didn't understand at all

(Scored 4-1)
8. How much interest and concern did the person giving you medical attention show you?

- a. Extremely concerned
 - b. Very concerned
 - c. Somewhat concerned
 - d. Somewhat unconcerned
 - e. Very unconcerned
 - f. Extremely unconcerned

(Scored 6-1)
9. How satisfactory was your contact with the person giving you care?

- a. Extremely satisfactory
 - b. Very satisfactory
 - c. Somewhat satisfactory
 - d. Somewhat unsatisfactory
 - e. Very unsatisfactory
 - f. Extremely unsatisfactory

(Scored 6-1)
10. Who gave you medical attention today?

- a. Medical Doctor
 - b. Nurse Practitioner
 - c. Nurse
 - d. Corpsperson
 - e. Other
11. Which statement best describes your feelings about the person who gave you medical attention today?

- a. I would prefer to see the same person again
 - b. It would make no difference whom I saw
 - c. I would prefer to see someone else

(Scored 3-1)
12. Please give the following information:

- a. Age
 - b. Sex
 - c. Status

☐ Active duty
☐ Retired

☐ Active duty dependent
☐ Retired dependent
13. Any additional comments you would like to make concerning the care you received today.

conducted in June of this year), only 51 responded.

Some variables should be mentioned. One was my own time in the area. My work as Nurse Officer of the Day and my continuing education classes took me out of the clinic area on several occasions. Changes of personnel in the clinic also affected the returns. Because of leaves and night duty of corps personnel, we frequently had new people working in the clinic. Although they were instructed on the importance of the survey, I found that personnel who were unaccustomed to the Internal Medicine Clinic were somewhat reluctant to ask patients to fill out the questionnaire.

Another problem noted was that patients were frequently in a rush to leave the clinic once their visit was finished. Several took the questionnaire and agreed to complete it but left the clinic without doing so. Perhaps a mail-in form would have brought a better return.

Since a determination of the level of consumer satisfaction was sought, I assigned a range of points for the possible responses to each question (Figure 1): the higher the level of satisfaction, the higher the number of points obtained.

Each question was graded, averaged, and a percentage level determined. Results of the survey are shown in Tables 1, 2, and 3.

Overall satisfaction-level scores for the nurse practitioner and the physicians were close (Table 3). The nurse practitioner received a slightly higher rating from respondents on the medical attention received that day as compared with that received on previous visits (Question 2). The nurse also scored higher with respect to the patient's desire to return to the same provider of health care (Question 11). Additionally, the nurse practitioner scored higher when medical attention received that day was compared with "what most people get" (Question 1).

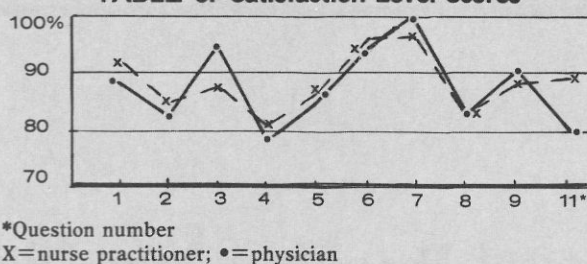
The highest levels of satisfaction, with respect to both physicians and nurse, were in the area of their understanding of the patient's problems (Question 7). The lowest level of satisfaction was scored by the physicians, and concerned the patient's perception of friendliness on the part of the person providing medical attention (Question 4). However, the nurse scored only slightly higher on the same item.

One area that seemed to represent a problem was that of correct consumer identification of the nurse practitioner. As Table 2 indicates, the percentage of patients identifying the physicians correctly as medical doctors (86%) was much higher than that identifying the nurse practitioner correctly as a nurse (77%).

I undertook this survey on the premise that when a health-care consumer seeks the services of a nurse practitioner, that consumer should receive satisfaction at least equal to that given by the traditional providers of health care.

In this survey, the Navy nurse practitioner appeared

TABLE 3. Satisfaction-Level Scores



to be meeting the needs of the patient-consumer population. In general, the scores for nurse practitioner and physicians ran closely parallel, indicating that from these consumers' perspectives the nurse in an expanded role is an acceptable addition to the health manpower team.

At the bottom of the questionnaire was a space for comments. The nurse received only favorable comments, some examples of which are the following: "The nurse practitioner goes out of her way to be informative" . . . "Her concern is most rewarding" . . . "Extremely pleased with service" . . . "I was somewhat apprehensive [about] being treated by a nurse, but changed my mind later because the nurse gave a thorough examination" . . . "Practitioner always appears to spend more time with patients."

Many other areas touching nurse practitioners also need research—e.g., physician acceptance of nurse practitioners, economic factors, availability of nurses, availability of billets for nurse utilization, potential for further expansion of roles within the military setting, etc.

But with continued expansion and legalization of the "practitioner" role, it would seem that the nursing profession can help alleviate the medical manpower shortage and offer a valuable service to consumers of health care.

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Naval Residencies: Dialogue Continued

In June we reprinted in this column an exchange of letters between a young Reserve medical officer and the commanding officer of HSETC concerning Navy residency training. Those letters prompted the following correspondence, which concerns basic questions for Navy Health Professions Scholarship students about to embark on medical careers.

RADM Stephen Barchet, MC, USN
Commanding Officer
Naval Health Sciences Education & Training Command
National Naval Medical Center
Bethesda, MD 20014

Dear Sir:

I read with extreme interest the recent exchange of letters between you and LT Herdener in the June issue of *U.S. Navy Medicine*. Since you seemed very open to hearing from naval scholars and anxious to discuss their career plans, I decided to write this letter.

I am now entering my fourth year at Cornell University Medical College and face the difficult decision of where to apply for my postgraduate training. For the naval scholarship student, this necessarily involves deciding whether or not to seek a naval residency.

In my case, I think that both the best interests of the Navy Medical Corps and my own development as a physician will be best served if I take my pediatric training in a civilian institution.

I quite agree with VADM Arentzen that "our training programs must be first rate," and with your observation that, with respect to Ob-Gyn, "our programs will over the upcoming years remain fully competitive." I know you share LT Herdener's concern that, with the recent expiration of the Berry Plan, there is a real danger of the Navy Medical Corps losing the valuable input of physicians exposed to and trained in a great variety of programs.

In order for us to remain "first rate," this cross-fertilization of diverse experience must be maintained. This is an absolute necessity if any intellectual commu-

nity is to grow and flourish. This issue seems to me especially important now that the naval hospitals have assumed a primary teaching responsibility for students from the Uniformed Services University of the Health Sciences.

When I began to think about the kind of teaching situation which would be most advantageous, I came to the realization that the optimal environment for pediatric training would be that of the regional, university-affiliated children's hospital where the house officer is exposed to a large and diverse patient population, a full range of subspecialty services, and had the intellectual stimulation afforded by contact with an extensive pediatric attending and house staff.

To my mind, none of the Navy programs fulfill these criteria. I have therefore decided to seek a three-year deferment.

Upon completion of a civilian training program, I feel that I will bring a fresh and broadened perspective to the Navy Medical Corps. In addition, a three-year hiatus in a civilian hospital will give me a true front-line experience with health care delivery in the private sector. I would then be prepared to compare this with my four-year Navy experience and decide which of the two afforded me a more challenging and exciting environment. I am truly open-minded about my ultimate career goals; however, I would like to experience a hospital-based civilian environment before deciding whether or not to remain in the Navy.

I hope that I have expressed myself clearly. I have tried to be honest: we were told during ACDUTRA at Newport to clearly express our preferences to the Navy. I think that a three-year deferment, allowing me to train in a major children's hospital, will be beneficial to me and, ultimately, to the patients who rely on the Navy Medical Corps for their care. I appreciate your interest and look forward to any thoughts you might have.

Thank you again for your time and consideration.

ENS Kevin Shannon, MC, USNR
425 E. 69th St.
New York, N.Y. 10021

Dear Ensign Shannon:

You have correctly surmised that I am deeply interested in and committed to the mission, purposes and outcomes of Navy Medical Department education and training programs. Accordingly, as the Medical Department's "investment broker" for training to authorized Navy requirements, I am pleased to share in matters that deal with all 1,575 of our Health Professions Scholarship students.

I would like to focus on that part of your letter in which you conclude Navy pediatric programs do not satisfy certain criteria—to wit:

- a regional university-affiliated children's hospital where the house officer is exposed to a large and diverse patient population,
- a full range of subspecialty services, and
- intellectual stimulation afforded by contact with an extensive pediatric attending and house staff.

Additionally, you indicate some current indecision as to your Navy career intentions. In that vein you express a decided preference to seek a three-year deferment in order to complete a civilian training program in pediatrics.

At the risk of overstating my bias in favor of the overall worth, beneficial outcomes, and academic reputation of Navy pediatric programs, I will not personally answer that part of your letter—because you know what that answer will be, and, quite possibly, you will not readily accept it. Instead, by copy of this and your letter, I am asking CAPT Bill McCurley to reply to you directly. CAPT McCurley is chairman of the Department of Pediatrics, National Naval Medical Center, and he holds the vice chairman's position at the Uniformed Services University. His clinical credentials, combined with a naval officer's dedication to Navy health care, are remarkable. I trust you will find his reply both interesting and persuasive. I, too, will look forward to reading his appraisal of Navy pediatric programs.

As a naval officer nearing completion of enrollment in the Navy Health Professions Scholarship Program, you will no doubt shortly apply for first postdoctoral year training. In return for your scholarship, we expect that you will participate in the Navy Intern Program if selected for such participation, and that you will participate in the Navy Residency Program—again, if you are competitive and selected to participate.

Failing selection for participation in the Navy's 58-year-old intern program, and based upon the needs of

the Medical Department, you are assured of a one-year deferment to complete a civilian internship or its equivalent. Those students following that pathway are well advised to seek out a well-rounded first postdoctoral year of broad medical, surgical, and preventive medical experiences.

Uninterrupted continuation of civilian training made possible by selection for a full deferment in a basic specialty remains unlikely at the present. The Navy has an urgent and overriding need to assure adequate numbers of primary care medical officers are assigned to duty with the operating forces of our Navy and Marine Corps. This is a requirement for which there is no substitute, no alternative—and I must add that it is an opportunity which every Health Professions Scholarship Program student should seek to fulfill at the very earliest time in a professional role as a Medical Corps officer.

Unfortunately, it is not possible for every scholarship participant to be afforded this opportunity to work in an operational medicine assignment immediately upon completion of the intern year. For that reason opportunities exist for interns and others to apply for participation in the Navy Residency Program. Selection is based upon a number of factors, including but not limited to noncognitive attributes, potential as a Medical Corps officer, demonstrated professional and military performance, past academic record, letters of reference, and availability of Navy residency positions. Applicants for the Navy Residency Program substantially enhance their chances for selection by first serving in a tour of duty with the operational forces, or as a flight surgeon, or as an undersea medical officer.

Invariably, those medical officers adjudged as professionally qualified and eligible will be given first preference for the available Navy residency positions. To the extent that positions are vacant and the interns applying are not slated for an operational duty assignment, those interns who are competitive will be selected for participation in the Navy Residency Program.

Those Health Professions Scholarship Program participants who have been denied a position in the Navy Residency Program and who are otherwise professionally qualified may apply and compete for selection to be released from active duty for the period required to undergo civilian residency. Again, based upon the needs of the Medical Department, this is both a com-

petitive and a selective program which is administered in the Bureau of Medicine and Surgery (Code 3). The details, procedures, and policies governing this program are available by contacting CDR Clarence Mohler, MSC, USN (Retired), Code 314, in BUMED.

Ensign Shannon, I hope you have gained from the tone and substance of my remarks a broader understanding of the opportunities, procedures, and policies which bear upon Navy medicine, graduate medical education, and the Health Professions Scholarship Program. Also, I must presume that your perceptions stem from a personal worry that Navy pediatric programs are neither "first rate" nor "competitive." I remain optimistic as to the character and quality of the Navy's Graduate Medical Education Program, and I would hope that you share in that optimism. In support of my optimism is the Surgeon General's commitment to Medical Department education and training. In further support of that optimism is the unquestionable intent of the Congress, as set forth in PL 92-426, Chapter 105, Section 2121. This chapter, which deals with the Armed Forces Health Professions Scholarship Program, states in part: "In addition, members of the program shall, under regulations prescribed by the Secretary of Defense, receive military and professional training and instruction."

I believe profoundly in the military and societal worth of qualified physicians serving as Navy Medical Corps officers and their seeking participation in the Navy Graduate Medical Education Program. With the experiences gained [by the Navy Medical Department] from 58 years of intern training and 33 years of residency and fellowship training, I further believe [it] will continue to train Medical Corps officers to become competitively proficient and competent specialists. I sincerely hope that we share similar objectives.

RADM Stephen Barchet, MC, USN
Commanding Officer
Naval Health Sciences Education &
Training Command
National Naval Medical Center
Bethesda, MD 20014

Dear Ensign Shannon:

Having reviewed your letter and RADM Barchet's response, I am happy to address your concerns from a pediatric vantage point. I do empathize with you. Your concerns are real and the decisions momentous.

One might expect that my comments, too, may be somewhat biased, but I will attempt to present the facts objectively and then comment on them as they relate to Navy training programs.

Of 234 university-affiliated graduate programs in pediatrics currently listed in the 1977-78 *Directory of Accredited Residencies*, 32 (or approximately 14%) are identified as associated with or located within "children's" and/or "infants" hospitals. Notable ex-

ceptions are Yale-New Haven, Johns Hopkins, Stanford, and Los Angeles County Medical Center, to name but a few.

Children's hospitals indeed offer an exciting and unique environment for pediatric training. On the other hand, the overwhelming majority of pediatric care is rendered in general, multispecialty hospitals, and apparently many pediatricians, both clinical and academic, have found such centers well able to meet their needs for specialty training.

The Navy graduate programs are all located in large regional hospitals and are closely affiliated with local university medical centers. Most, if not all, of the programs provide for elective experiences at these and other centers, depending upon the needs of the individual resident.

In-house subspecialty consultation services, of necessity, must be available at any hospital that has an accredited training program in pediatrics. To be sure, the extent and sophistication of these subspecialty services may vary considerably, but a medical center need not have subspecialty fellowship programs or grant-supported research programs to offer adequate consultative services.

Navy programs generally provide a full range of consultative services, either in-house or, where necessary, from the locally affiliated medical centers, to satisfy both clinical and educational requirements. In addition, nationally prominent consultants are readily available, as they are at most civilian centers.

I heartily agree that a good training program should provide an intellectually stimulating environment, and have always enjoyed that aspect of Navy Pediatrics wherever stationed. Furthermore, I will most certainly concur that diversity of background is a desirable quality within a teaching faculty. Such diversity pervades the Navy programs. Clinical pediatric practice itself ensures that each pediatrician offers a slightly different viewpoint to the resident. Of interest, almost 80% of the Navy's 34 pediatric subspecialists received their subspecialty training in civilian institutions located throughout the United States.

In summary, we each must determine our fate. We must closely examine the available options, decide wherein our interests and talents lie, and then set about to achieve our goals.

Years ago, I decided that I wished to proffer a high caliber of pediatric care to my patients, continue in a professionally stimulating environment, teach at both the undergraduate and the graduate levels, and participate in the more global aspects of pediatric health care. For me, the Navy Medical Corps satisfied these goals. I wish you the same degree of success as you embark upon your medical career.

CAPT William S. McCurley, MC, USN
Chairman, Department of Pediatrics
National Naval Medical Center
Bethesda, MD 20014

NAVMED Newsmakers

No excitement in the life of a physical therapy technician?

Not so, especially if you happen to be **HM2 Roy J. Trissel**, a six-year veteran of naval service assigned to NRMCMC Okinawa.

On 3 March 1978, Petty Officer Trissel saw a CH-46 helicopter go down in the China Sea near the Okinawa coastline. Though he was fully aware of potential personal danger, he entered the water without hesitation, waded out to the downed aircraft, and began work to rescue its occupants.

During his rescue attempts, he was constantly exposed to dangers from explosion, shifting wreckage, and fuel burns—and he did in fact incur fuel burns about the eyes. Nothing daunted, with the aid of one other hospital corpsman and a marine, he had managed to free the chopper pilot and a crewmember by the time trained rescue personnel arrived on the scene.

On 10 August, HM2 Trissel was awarded the Navy and Marine Corps Medal for heroism, presented by CAPT C.S. Lambdin (MC), commanding officer at NRMCMC Okinawa.

The citation's conclusion summed it all up well: "Petty Officer Trissel's courageous and prompt actions in the face of great personal risk reflected great credit upon himself and were in keeping with the highest traditions of the United States Naval Service."

RADM David B. Carmichael, MC, USNR-R—the senior medical officer of the Naval Reserve—recently closed out the Navy half of his distinguished military and medical career with appropriate awards and a flourish.

During a formal retirement ceremony at the San Diego Naval Reserve Center, RADM Carmichael was awarded the Legion of Merit for "exceptionally meritorious conduct

in the performance of outstanding service . . ." That award and a Certificate of Merit were presented to RADM Carmichael by VADM Willard P. Arentzen, MC, USN, Navy Surgeon General.

Other speakers at the ceremony were RADM Richard Lyon, USNR, Deputy Chief of Naval Reserve, who brought a Letter of Appreciation from the Chief of Naval Reserve, and RADM John W. Cox, MC,

USN, Commanding Officer of NRMCMC San Diego, who added his personal tribute.

In his own speech, RADM Carmichael recalled that in a one-week period in December 1950, he and his staff had expanded the capacity of the Yokosuka Naval Hospital nearly eightfold, from 700 to 5,500—an achievement for which they were awarded the Presidential Unit Citation.

RADM Carmichael entered the Naval Reserve in 1955, with duties that included service as Inspector General, Medical, U.S. Naval Reserve, and Deputy Special Assistant to the Surgeon General for Medical Department Education and Training.

Though RADM Carmichael has now transferred to the Retired Reserve, he will still be keeping busy as clinical professor of medicine at the University of California - San Diego School of Medicine and vice chairman of the AMA's Residency Review Committee in Internal Medicine.



HM2 Trissel: Heroism rewarded



VADM Arentzen; RADM and Mrs. Carmichael; RADM Cox

Instructions & Directives

Sampson P-3 frame for use with submarine EAB mask

Submariners who are supplied with spectacles under the provisions of BUMED Instruction 6810.4E have complained that they are unable to wear the standard issue S-10 black acetate military eyewear under the EAB mask without compromising the critical seal and/or contending with very uncomfortable facial pressure.

An informal evaluation of several commercially available frames resulted in selection of the American Optical Corporation's Sampson P-3 frame as one that would meet the criteria of not interfering with the seal of the mask or the comfort of the wearer. However, the demand for these relatively expensive frames has significantly exceeded estimates and caused severe budgetary strain.

The Naval Submarine Medical Research Laboratory is informally evaluating cheaper alternatives to the Sampson frames and planning to study a new EAB mask. Further evaluation of this problem will be included in an upcoming formal review and study of visual standards for submariners.

Action. Submariners who require prescription spectacles to perform their duties while wearing the EAB mask shall be provided with a spectacle frame suitable for use with the mask. This frame will be the Sampson P-3 frame until a less expensive one can be located and tested. Requisition shall be in accordance with BUMEDINST 6810.4E. Issue shall be limited to those personnel whose watch stations or emergency bill duties absolutely require, as determined by the commanding officer, 20/20 vision and are essential to the safe and efficient operation of the ship. Issue shall also be limited to those personnel with refractive errors that exceed the following limits:

- Myopia. Refractive error exceeds -0.75 sphere or spherical equivalent (the algebraic sum of the spherical correction plus one half the cylindrical correction) or has a cylindrical correction that exceeds 1.00 diopter.
- Hyperopia. Refractive error that exceeds +1.00 sphere or spherical equivalent or has a cylindrical correction that exceeds 1.00 diopter. These lens power restrictions do not apply to presbyopic personnel who are over 35 years of age.—BUMED Notice 6810 of 20 June 1978.

Two required publications—and how to get them

BUMED Instruction 6820.4K requires all Medical Department activities to procure and maintain current editions of the *Manual of Naval Preventive Medicine* (NAVMED P-5010) and *Control of Communicable Diseases in Man* (published by the American Public Health Association).

• Recently, several chapters of NAVMED P-5010 have been out of stock at the Naval Publications and Forms Center, Philadelphia. The stocks were allowed to become depleted because it was anticipated that the chapters would be revised. Unfortunately, the revisions have not been forthcoming.

To meet the needs of Navy medical activities until the revised chapters become available, a limited supply of current chapters has been printed. These chapters may be ordered from the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, Pa. 19120, using the following stock numbers:

- Stock No. 0510-LP-027-0010: Chap 1, Food Sanitation.
- Stock No. 0510-LP-027-0002: Sup 1, The Vending of Food and Beverages.
- Stock No. 0510-LP-028-0000: Chap 2, Sanitation of Living Spaces and Related Service Facilities.
- Stock No. 0510-LP-029-0005: Chap 3, Ventilation and Thermal Stress Ashore and Afloat.
- Stock No. 0510-LP-030-0000: Chap 4, Swimming Pools and Bathing Places.
- Stock No. 0510-LP-031-0005: Chap 5, Water Supply Ashore.
- Stock No. 0510-LP-031-1002: Chap 6, Water Supply Afloat.
- Stock No. 0510-LP-032-0000: Chap 7, Sewage Disposal Ashore and Afloat.

Stock No. 0510-LP-033-0000: Chap 8, Medical Entomology and Pest Control Technology.

- *Control of Communicable Diseases in Man* may be ordered in accordance with procedures outlined in BUMED Instruction 6820.4K, from the American Public Health Association, 1015 18th St., N.W., Washington, D.C. 20036; price, \$4 per copy.—BUMED Notice 5600 of 30 June 1978.

'Integral parts of training': guidelines

An "integral part of training" is an approved course or affiliated period of training necessary to supplement experiences in approved Medical Department training programs and meet the requirements for accreditation set by recognized accrediting bodies.

HSETC will:

- Authorize sponsorship for attendance at programs that have been approved by BUMED as an integral part of an approved training program.
- Monitor accreditation requirements of Navy Medical Department training, and review all requests for integral parts submitted to BUMED for approval. All approved integral parts will be reviewed by HSETC at least annually for currency, appropriateness, and cost.
- Fund appropriate costs incident to participation of qualified Navy Medical Department personnel in approved integral parts of approved training programs.

Courses that are considered essential and are pending approval as an integral part may be sponsored by local commands to the extent that funding permits.

Requests to establish new integral parts should be submitted to the Chief, BUMED (Code 0011), via Commanding Officer, HSETC. Requests must include the course or program title, location, sponsorship, number of participating trainees, projected travel costs, fees, and any other related costs. Each request must justify the proposed integral part and outline the training deficiencies that require its approval.

Attendance at periodic or annual meetings of scientific, technical, or professional conferences are within the purview of BUMEDINST 4651.1B.

Procedure. Letter requests for attendance in an approved integral part of an approved training program shall be prepared in the format of the sample letter of application provided as enclosure (1) of this instruction. The payment of fees or related expenses from personal funds, subject to reimbursement by the government, may be made prior to receipt of Commanding Officer, HSETC, authorization if the integral part has been approved by BUMED. Requests should be received in HSETC six weeks prior to the period of training to ensure timely processing and response.

MOU for Navy trainees. Occasionally, circumstances may indicate the need for a Memorandum of Understanding (MOU) to cover Navy trainees while they get training or clinical experience at a nonfederal institution. In such cases, the commanding officer is authorized to negotiate and forward to BUMED (Code 0011), via the Commanding Officer, HSETC, an MOU prepared in accordance with the format and language of the sample provided as enclosure (2) of this instruction. Note that this MOU and procedures are distinctly different from the MOU for nonfederal trainees in naval activities authorized by BUMEDINST 12000.5E.

Travel and liability. BUPERSINST 1321.2H discusses TEMADD and authorization orders, while Public Law 94-464 is the federal malpractice statute that protects Navy Medical Department personnel. Each must be carefully reviewed.

BUPERSINST 1321.2H clearly prohibits use of authorization orders in connection with official Navy business. Public Law 94-464 requires a member to be acting within the scope of his official duties to be entitled to the immunity provisions of the law. Thus, since the nature of approved integral parts training is official business, Navy Medical Department trainees shall not be required or permitted to participate in approved integral part training of approved training programs at no cost to the government.—BUMED Instruction 1500.13A of 2 May 1978.

Education & Training

San Diego Courses for DTs Outlined

This is the second in a series of articles outlining the educational opportunities available to dental technicians at the Naval School of Dental Assisting and Technology, San Diego, Calif.

Course B-331-0016: The Dental Laboratory Technology, Basic, Class C School, a six-month course of instruction, convenes classes quarterly. As with all other courses offered at the Naval School of Dental Assisting and Technology, major curriculum revisions have been completed, assuring that the training more closely parallels the post-graduate training received by dental

officers at the National Naval Dental Center, Bethesda, Md.

In response to BUMED direction, this course has been converted to a modularized, task-based method of instruction, with primary emphasis placed on the BUMED-approved 84-item task inventory for the NEC 8752.

The course is designed to teach the trainee the basic skills necessary to function effectively in a prosthodontic laboratory in the areas of complete-denture and removable-partial-denture construction and all associated tasks.

Instruction includes:

- Module 1, Prosthodontic Laboratory Fundamentals. An introduction to the modular system, vocabulary, oral anatomy, and prosthodontic laboratory clerical procedures.

- Module 2, Basic Laboratory Procedures. Includes supplementary tasks, such as construction of diagnostic casts, individualized trays, master casts, record bases, and occlusion rims.

- Module 3, Complete Denture Construction. Anatomical and monoplanar tooth arrangements, immediate denture arrangements, processing with heat-curing acrylic resin, and acrylic and tooth repairs.

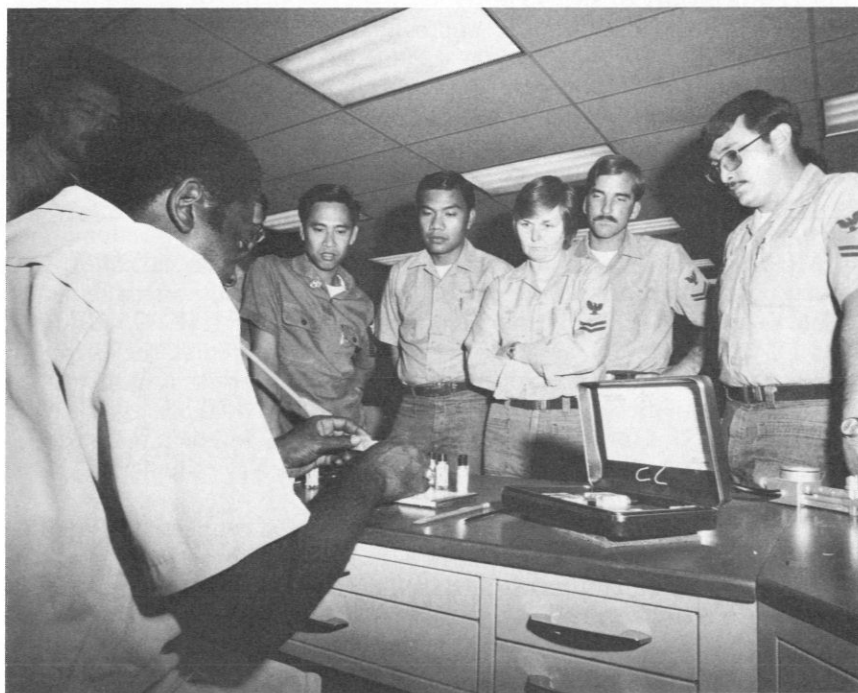
- Module 4, Removable Partial Denture Construction. Includes chrome-cobalt framework construction, altered cast techniques, arrangement of teeth, and processing with heat-curing acrylic resin.

- Module 5, Fixed Partial Denture Construction. An introduction to complete crown and fixed partial denture framework construction. Includes cast construction, waxing of patterns, and casting and finishing frameworks.

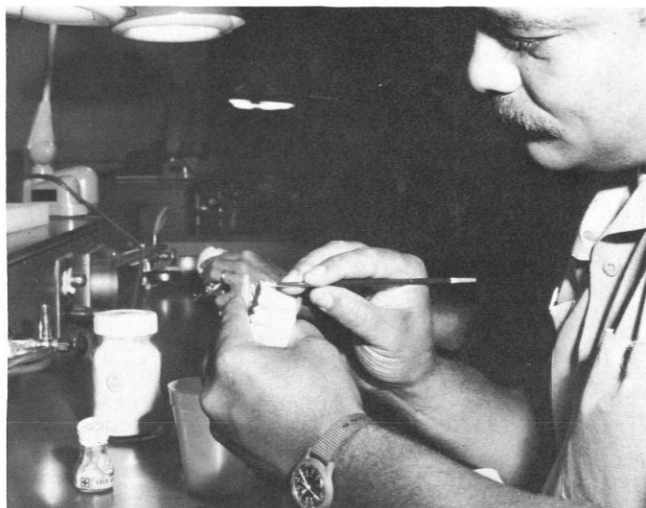
Students progress through these modules at their own pace, within specified time limits. The facilitator/student ratio is maintained at 1:10, affording maximum opportunity for individualized instruction.

Course B-331-0017: The Dental Laboratory Technology, Advanced, Class C School, also a six-month course of instruction, convenes classes semiannually.

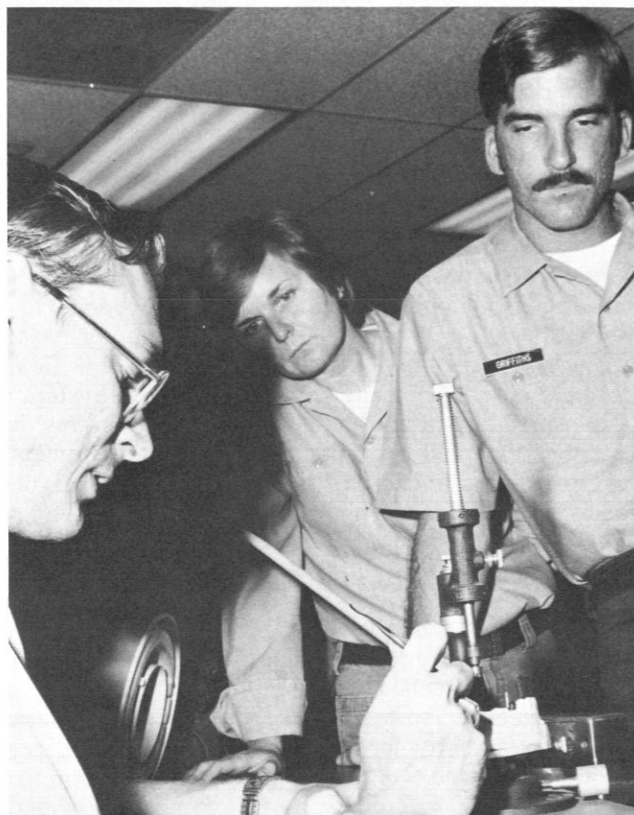
This course was also recently converted to the modularized, task-



DTC G. Harbert gives advanced students a porcelain color staining demonstration.



In the Advanced, Class C School, demonstrations and practical experience go hand in hand.



based method of instruction. Emphasis is placed on advanced techniques in the construction of removable and fixed prosthodontic appliances associated with the NEC 8753. Also taught are administrative and supervisory skills that will enable the trainee to function effectively in the capacity of prosthodontic laboratory supervisor.

Instruction includes:

- Module 1, Complete Denture Construction. Advanced techniques in tooth arrangement, acrylic characterization and processing, using pour-acrylic techniques.

- Module 2, Removable Partial Denture Construction. Construction

of appliances adjunct to other dental specialty treatment, and construction of removable appliances prescribed in conjunction with fixed prosthodontic treatment.

- Module 3, Fixed Partial Denture Construction. Fixed partial denture framework construction, ceramics, staining, characterization, and acrylic veneering.

A review of basic techniques is included in each of the above modules. As with all other courses at the dental assisting school, students progress through the modules at their own pace. The facilitator/student ratio, maintained at 1:6, assures maximum opportunity for in-

dividualized instruction.

How to apply. Dental technicians interested in applying for either of these courses should refer to the *Catalog of Navy Training Courses*, NAVEDTRA 10500, to determine eligibility requirements.

Applications should be submitted to the Chief of Naval Personnel (Pers 5), via the Chief, Bureau of Medicine and Surgery (Code 611), in accordance with article 2.02 of the *Enlisted Transfer Manual*.

The recommendation for personnel requesting training in dental laboratory technology must be from a dental officer practicing in the area of prosthodontics.

Planning for Tomorrow's Needs Today

The need to use scarce resources in an efficient and effective manner is a major concern of both government and industry. It's a concern shared by the Navy Dental Corps, which has taken steps toward allocating its assets so that resources expended obtain the greatest possible return.

In April 1975, the Dental Corps completed an analysis of its system for collecting dental treatment information. The study showed that even though the system adequately recorded clinical evaluation data and treatment procedures provided, it had a number of deficiencies. For one thing, it required multiple manual steps to collect and compile data. Moreover, it provided no data-collection capability for determining the treatment *needs* of the Navy and Marine Corps population.

In this era of austere budgets, the Dental Corps will be required to present detailed justifications for budget requests and future programs. Commanders will need more precise data on current and future workload requirements if they are to substantiate requests for manpower and facilities that will provide an effective dental care delivery system.

At present, management must rely solely on the historical data collected via DD-477/NAVMED 6600/7 to develop and substantiate dental budgets and programs. This process measures only a portion of the demand for dental care, rather than measuring all the needs for dental care in the eligible population.

For truly effective management,

the Dental Corps must be capable of presenting budgets and programs in terms of treatment requirements (needs). As a result of the analysis performed in 1975, the Dental Division began to develop and test a computer-based data-collection system—the Dental Information Retrieval System (DIRS)—designed to provide this information. The essential element of this system is a simple, inexpensive, optical-mark, machine-readable input form.

A number of forms have been tested and evaluated at the National Naval Dental Center, Bethesda, Md., and the Naval Regional Dental Center, Norfolk, Va. DIRS has now evolved into a two-part system, using one form to collect data on treatment requirements and a second form to collect data on treatments provided.

Use of the treatment-requirement form began at all regional dental centers in July of this year.

The second form—which will use a modification of the American Dental Association's coding system for treatment provided—is still being tested. Since the second form's purpose is to measure the quantity of treatment provided, it is expected to replace DD-477 in the future.

The treatment-requirement form is to be completed for one out of every five (20%) of the active-duty Navy and Marine Corps personnel who report to regional dental facilities for annual dental examinations. Completed report forms are forwarded to BUMED (Code 6141)

once each week, or more often if appropriate.

As the data base thus provided grows, it will be possible to determine the specific resources required to treat these needs. This will be done by converting the treatment-requirement categories statistically to specific DD-477 treatments. These will then be converted by time-weight factors to treatment time required (in minutes). Finally, the dental treatment minutes required will be converted to dental officer requirements.

When DIRS has been completely implemented, it will provide a number of benefits over the current system. These include:

- Ability to obtain and document all the dental information required by existing directives.
- Provision of more timely and sensitive data measurements to headquarters—and better feedback to field activities.
- Significant reduction in the probability of reporting errors.
- Reduction of the administrative burden in collecting, reporting, and analyzing data.
- Provision of a more comprehensive data base, allowing more accurate responses to internal and external inquiries.
- Provision, to all levels of management, of the information necessary for accurate and realistic planning for a more efficient and effective allocation of resources.

—LT Gary J. Spinks, MSC, USN
BUMED Code 6141

Reducing the Crossmatch Time

LCDR W. Patrick Monaghan, MSC, USN

Recent work performed at the National Naval Medical Center in Bethesda, Md., has resulted in a rapid compatibility test used to define recipient blood for patient transfusion purposes.

The saline low ionic crossmatch (SLIC) is a method of performing compatibility testing between patient and donor red cells with only a 10-minute incubation phase. The full crossmatch can usually be completed within 20 to 30 minutes.

The SLIC procedure, which incorporates low ionic strength solution (LISS), has also proved to be more sensitive than the traditional crossmatch, which generally uses a 45- to 90-minute test procedure, and it has detected the presence of alloantibodies previously missed by the conventional crossmatching methods.

Overall, the SLIC procedure has proven to be efficient and sensitive in performing red cell compatibility testing and is readily adaptable for both routine and emergency crossmatching techniques.

LISS in the hemagglutination reaction

The increased rate of reaction between immunoglobulins and red cell antigenic sites has been observed when the hemagglutination reaction occurs in a low ionic environment (1-12).

Hughes-Jones (3) in 1964 reported a 1,000-fold increase in the uptake of the radio-labeled anti-Rh₀ (D) onto homozygous Rh-positive red cells when they were

reacted in a low ionic strength solution of approximately 0.3M.

Other immunohematologists have found this low ionic environment both to enhance the specificity of the hemagglutination reaction and to increase the rate of reactivity (6-10).

One mechanism responsible for this effect is the reduction of the natural electrostatic barriers between red cells that are in opposition to each other. There is further evidence that the low ionic chemicals may also cause the immunoglobulins to aggregate partially, prior to attachment to the red cell membrane antigens. This effect may be responsible for the increased sensitivity observed when LISS is used as a red cell suspending medium in the indirect anti-human globulin testing phase. This enhancement of sensitivity is probably due to the clustering of specific immunoglobulins onto the reciprocal red cell antigenic sites in localized areas of the red cell membrane. The clustering would increase the likelihood that the second phase of agglutination would occur: formation of a lattice network between previously sensitized red cells coated with antibody. This lattice formation is what actually accounts for the avidity observed in the hemagglutination reaction.

The chemical solutions used in the SLIC procedure

TABLE 1. LISS Dry Pack

Ingredients	Weight
Glycine	18.0 grams
NaCl	14.0 milligrams
NaOH	1.79 grams
NaH ₂ PO ₄	180 milligrams
NaHPO ₄	213 milligrams

LCDR Monaghan (Ph.D.), an immunohematologist, heads the Blood Bank of the National Naval Medical Center, Bethesda, Md. 20014.

This work was supported by the Naval Medical Research and Development Command, Department of the Navy, under Research Work Unit M0096-PN.01-0049.

TABLE 2. Saline Low Ionic Crossmatch (SLIC) Procedure

1. Wash red blood cells (patient or donor) once with normal saline.
2. Wash red blood cells once with LISS.
3. Decant and resuspend cells to a 5% cell suspension in LISS.
4. Mix 2 drops of serum with 1 drop of 5% cell suspension.
5. Incubate duplicate sets of tubes at room temperature and at 37°C for 10 minutes. Centrifuge and read.
6. Wash 37°C tubes three times with normal saline.
7. Add 2 drops of anti-human globulin serum.
8. Centrifuge and read.

have proven to be comparatively inexpensive, and obviate the need for using the 22% bovine albumin commonly employed in the conventional crossmatch procedures.

The low ionic strength solution (LISS) used in the SLIC procedure is a modification of the Löw and Messeter (7) formula. Table 1 lists the ingredients, which can be preweighed and packaged in a plastic envelope. These packets are later reconstituted with one liter of distilled water and the pH adjusted, if necessary, to a range of 6.5-7.2. This solution can then be used to wash and suspend the red cells according to the SLIC pro-

cedure listed in Table 2. The red cell solution prepared with LISS can be used for 24 to 48 hours without any loss of hemagglutination enhancement.

LISS solutions should be stored at standard blood bank refrigeration, 4°C, and are readily used within a few days.

Two commercial companies have recently marketed the Löw and Messeter formula of LISS. One company is selling the LISS in a liquid 200-ml wash bottle. The other sells the LISS formula in a lyophilized bottle that can later be reconstituted to a 200-ml volume.

More recent work indicates that a low ionic solution in an additive droplet form may be even more advantageous for routine use in immunohematological testing. Many other proprietary firms are currently working on solutions that affect the low ionic milieu of the hemagglutination reaction, thereby providing a more sensitive and specific reaction between red cell membrane antigens and their reciprocal alloantibodies.

Comparative crossmatch study

A one-year blind study comparing the SLIC procedure with the routine conventional procedure was conducted at the National Naval Medical Center Blood Bank (Figure 1). The results of this initial study were presented in November 1977, at the thirtieth annual meeting of the American Association of Blood Banks in Atlanta, Ga. (13). The report is presently pending publication in the journal *Transfusion*.

The findings in this study on three patients who had clinically significant alloantibodies of three different specificities, undetectable by the conventional crossmatch technique, elaborated the superior sensitivity of the SLIC procedure.

Additional immunohematological tests that used the patients' sera, LISS, and red cells of known antigenic composition defined the specificity of the alloantibodies found in the three patients' sera.

Thirty alloantibodies were detected throughout the study. All of these antibodies showed enhancement when the SLIC procedure was used.

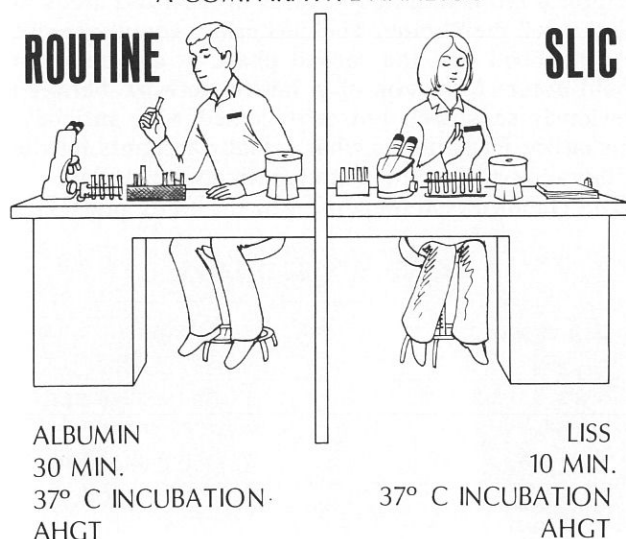
Other pertinent findings in the study corroborated the increased sensitivity and enhancement of the hemagglutination reaction that had been previously reported.

No false-negative results were elaborated in the study when the SLIC protocol was used. However, some weak false-positive crossmatches were noted, which were attributed to the activation of the complement components and the use of polyspecific (broad spectrum) anti-human globulin sera (Coombs) that contained anti-complement.

Because of the obvious attributes of the SLIC procedure—notably increased sensitivity, terminated use of bovine albumin, and the considerable amount of time saved in determining compatibility—the procedure was implemented at the National Naval Medical Center as

FIGURE 1

COMPATIBILITY TESTING A COMPARATIVE ANALYSIS



the standard compatibility test. Since that time, more than 25,000 units of both refrigerated bank blood and frozen-thawed-deglycerolized red cells have been crossmatched without any difficulty. Although many clinicians were not aware of the actual change to the SLIC procedure, numerous anesthesiologists and surgeons have complimented members of the blood bank staff on their responsiveness in providing fully crossmatched blood in such a comparatively timely fashion.

Other aspects of low ionic solutions that are presently being studied are their stability upon prolonged storage for use aboard ships and in field hospitals, a platelet/granulocyte crossmatch in support of hematology-oncology patients, and an automated crossmatch procedure using a 10-channel autoanalyzer.

The benefits have been obvious to all who have used the low ionic procedure, and the savings in medical laboratory technicians' time and fiscal resources have, furthermore, proven to be significant. The ability to respond quicker, using a more sensitive index for compatibility support of patients who are receiving hemotherapy, is perhaps the greatest attribute of the saline low ionic crossmatch.

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Medications and Driving Performance

Many people who take medications prescribed by their physician drive automobiles. Of the 50 most commonly prescribed drugs in this country, 13 are antidepressants or tranquilizers, whose recognized action is to affect the brain and nervous system. When these drugs function to improve psychological tolerance of an individual, they have a good effect. However, these drugs may have a bad effect on driving performance.

Other common drugs, whether prescribed by a physician or purchased "over the counter," may also adversely affect driving ability. Examples include antihistamines and "cold pills," as well as gastro-

intestinal and cardiac drugs.

When tested under laboratory conditions, ordinary doses of drugs often have little or no effect on driving performance. However, one must remember that these tests are done in a contrived situation that may bear little resemblance to real-life conditions. The experimental subjects are usually well-rested, are not ill, and receive a single dose as opposed to long-term repeated doses. There may be an entirely different result when a person is driving home on the freeway after a tiring workday, sustained by a tranquilizer. Driving-performance tests indicate two important effects of some drugs: (1) drugs may adverse-

ly affect some functions of driving; (2) experimental subjects were unaware that their driving was being impaired.

It would not be justified to say that people who drive should not take drugs; single drugs may maintain the individual in better condition to drive. However, drivers should be aware that drugs may impair their ability to operate a motor vehicle. They should judge whether or not they want to drive on a specific occasion on the basis of whether they need to do so and of the other factors involved. Drugs can be an important risk to drivers, but commonsense precautions can greatly reduce that risk.

A Behavioral Treatment of Nocturnal Enuresis

LT Michael R. Marcy, MSC, USNR

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It is well to begin consideration of this topic with a brief definition of the disorder and data concerning its incidence.

Nocturnal enuresis, or simply enuresis, is commonly defined as the involuntary discharge of urine, during sleep, by individuals who are more than three or four years old and have no demonstrable organic pathology.

On the basis of enuretic patients' history of bed-wetting, they are commonly divided into two major groups: primary and secondary enuretics. The "primary" classification is reserved for patients who have never become continent, while in "secondary" enuresis the child resumes bed-wetting after a period of continence. This diagnostic classification appears to exist purely for descriptive purposes and has not been found to have any prognostic validity (1).

Nocturnal enuresis is a significant pediatric problem that is found in approximately 20% of all 5-year-olds. This percentage gradually decreases with maturation to approximately 2% at age 14 (2). The disorder occurs more frequently in males than in females, by a ratio of approximately 2:1 (1). Since nocturnal enuresis is such a prevalent disorder, any pediatric practitioner is likely to encounter a large number of enuretic patients.

The treatment modalities for functional enuresis are varied and range from medication, such as imipramine, to psychodynamic psychotherapy to behavioral techniques.

Medical treatments, including imipramine, have often been criticized because of an extremely high incidence of relapse following withdrawal from the drug (3,4) and because of potential side effects such as dizziness, sleeplessness, irritability, and poisoning (5,6).

Psychotherapy, as a treatment for enuresis, has been criticized from an even more important standpoint, i.e., that it has no significant effect in reducing the symptom (7).

Of the behavioral treatments, the most successful and well-known is the pad-and-buzzer conditioning system described by Mowrer and Mowrer (8). Briefly, the Mowrer-type instrument consists of a urine-sensitive pad on which the patient sleeps. When the child micturates, urine passes onto the pad and activates a bell or buzzer. The alarm awakens the child, who ceases voiding, disconnects the alarm, and initiates micturition in the toilet. Eventually, the arousal response that initially was produced by the alarm precedes micturition. Arousal comes to be produced by stimuli such as those provided by the distended bladder.

Lovibond (7) attributed the coupling of the arousal response and the appropriate physical stimuli to operant conditioning. Essentially, arousal that occurs before an enuretic event allows the patient to avoid an aversive stimulus, the alarm. In this way elimination of the enuretic symptom is reinforced.

A complete and detailed description of the Mowrer-type apparatus and treatment procedure may be found in Dische (9) and Turner (10).

Investigators have reported several advantages of the pad-and-buzzer system over other treatment methods. The system has been found to be preferable to medication because of the relative absence of side effects and the lower rate of relapse (11). It is also pref-

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erable to psychotherapy, since it typically requires significantly less professional time in administration and is of demonstrated effectiveness (2). In fact, the Mowrer-type instrument has been reported to be more efficacious than either medical or psychodynamic approaches (7,12,13).

The present study is an initial evaluation of a behavioral enuresis treatment program utilizing the Mowrer-type alarm system. The program has been conducted by the Psychology Division of the Psychiatry Service, National Naval Medical Center, Bethesda, Md., with support in the form of medical expertise provided by the Pediatric Service.

Procedure

Patients were referred to the enuresis clinic only after a complete medical workup by the Pediatric Service to rule out the possibility of organic etiology. Upon referral, patients were placed on a waiting list until a pad-and-buzzer system became available. The apparatus used in the National Naval Medical Center clinic was the "Wee Alert," distributed by Sears, Roebuck and Company, although equally effective systems are available elsewhere.

When an apparatus became available, the patient and at least one parent were consulted and verbally instructed in its use. The system was assembled in the office, the buzzer was sounded, and both the child and the parent were given a brief explanation of how the apparatus worked.

The emphasis of the office visit was on making the family more comfortable with the disorder. Each child was told that many children have the problem of bed-wetting, and that it is not something a child or a parent should worry about. It was indicated that sooner or later the child would be able to sleep dry, but that the pad-and-buzzer system was designed to help him do it more quickly.

Each patient was told that the system would work because it would arouse him while he was wetting, and that he would be able to develop greater sensitivity to the physiological cues received as his bladder became full. The success of the program was presented as being dependent on the child's utilization of capabilities in his possession. It was explained that the apparatus would give the child the opportunity to learn to use these capabilities. This explanation coupled success in the program with a sense of personal accomplishment for the child.

Parents were advised to respond to the buzzer in order to help arouse the child, be sure that he went to the toilet, and assist in remaking the bed and resetting the alarm. Parents were asked to be supportive during these nocturnal episodes, and any exchange between parent and child that would contribute to the unpleasantness of the situation was frankly discouraged.

Each parent was provided with a written set of instructions, a report card on which to record the child's

progress, and a booklet containing a series of commonly asked questions and answers concerning enuresis. This written material completely specified the procedures and rationale involved in the program and served as reference for all information covered in the office visit.

Patients were advised to follow the procedure nightly until they had passed 21 consecutive dry nights. Parents were instructed to telephone the clinic to report on progress after two weeks and at any other time they desired consultation. Telephone contact was important in that it facilitated identification of potential problems and allowed the psychologist to give much-needed encouragement when progress was slow.

Typically, progress was noted in two to three weeks, and the program was completed in five to ten weeks.

Followup was obtained on 50 patients (33 males, 17 females) and six untreated control subjects (3 males, 3 females). Untreated and treated subjects were comparable in all relevant respects. Ages ranged from 4 to 19 years and averaged 9.02 years. Subjects' frequency of enuresis, at the time of referral, varied from once per week to several times nightly. In our sample, 45 subjects were primary enuretics and 11 were secondary enuretics.

Followup information was obtained via telephone interview and included demographic data, enuresis history, family data, and a parental attitude rating. Length of followup ranged from 3 to 43 months and averaged 20.13 months.

Results

The parental attitude rating of the program clearly indicated that parents were generally pleased with it. Eighty percent of the parents interviewed rated the program successful, while only 20% rated it unsuccessful. A few parents remarked that the program had importantly affected their children's lives in terms not only of decreased enuresis, but of increased self-esteem and confidence. These parents could not find enough superlatives to describe their attitudes toward the procedure.

In no case did we have a report of a significant negative side effect.

A more objective measure of success was whether or not patients were able to achieve the 21 consecutive dry night criterion. Of those parents interviewed, 72% indicated that their children reached the criterion, while only 28% reported that their children were unable to do so. Reaching criterion represented a significant improvement, since the patients had an average initial enuresis frequency of 5.45 wet nights per week.

For any treatment of problem behavior, the two most important indications of success are the extent to which the treatment decreases the behavior and the percentage of patients in which it does so. The present treatment program decreased the frequency of enuresis in

76% of the patients, with a mean decrease of 3.93 wet nights per week. Total remission was reported by 50% of the patients. The latter percentage becomes more meaningful when it is noted that of the eight relapses reported during followup, seven occurred in the first three months after the end of treatment. Thus, those patients who reported no further enuresis during our followup were actually past the time when relapse is most likely.

A question might be raised as to whether the success experienced by our patients was a result of treatment or of maturation, since it is well established that enuresis decreases with time. To resolve this question, a "Student's" t test, assuming homogeneity of error variance, was used to test the hypothesis that the decrease in enuresis in the treated patients was not significantly greater than the decrease in the untreated control subjects. The tenability of the assumption of homogeneity of variance was supported by a Hartley's F_{\max} test ($F_{\max} = 1.15$, $P > .25$). For patients treated with the pad and buzzer, the mean decrease in enuresis from time of referral to time of followup (3.93 fewer wet nights per week) was significantly greater than the decrease for the no-treatment control subjects: 1.17 fewer wet nights per week ($t_{54} = 3.53$, $P < .001$). Thus, the treatment condition decreased enuretic behavior significantly more than the no-treatment condition, although enuresis in the control subjects also decreased in frequency.

In our study, data was also collected to attempt to delineate possible prognostic signs. The following nominal variates were analyzed: primary versus secondary enuresis; successful prior therapy for enuresis versus unsuccessful prior treatment versus no prior therapy; enuresis history in the immediate family versus no other enuresis history in the family; sex; presence of other physical illness versus presence of other mental illness versus no other remarkable illness; parental divorce or separation versus no divorce or separation.

Among the groups delineated, we found no significant difference in response to treatment. No prognostic value was identified in the nominal variates studied. No factor studied could be used to rule out the use of this behavioral treatment modality because of decreased likelihood of effectiveness.

Discussion

Our data conclusively demonstrated that the pad-and-buzzer apparatus effectively treated nocturnal enuresis, in terms of decreased frequency, when treated subjects were compared with an untreated control group. In fact, 50% of our patients did not experience an enuretic event between termination of treatment and followup. The positive effects of treatment are also attested to by the fact that the great majority (80%) of parents had very positive attitudes toward the program. Some suggested that the treatment not only

decreased their children's enuresis but also produced positive personality effects, such as increased confidence and self-esteem. These positive personality effects probably resulted from explanation to the patients that the procedure's success would depend on use of their own capabilities. There was no report of a negative side effect or of symptom substitution.

It is clear that this treatment method, which utilized the skills of both pediatricians and psychologists in a combined effort, produced a high degree of treatment success.

Our data corroborate previous research findings concerning the lack of prognostic validity of the primary versus secondary dichotomy. In addition, none of the other factors we studied differentiated response to treatment. None of these factors—including sex, family enuresis history, illness, parental separation, and history of prior enuresis therapy—could be used to rule out the use of the pad-and-buzzer system because of diminished likelihood of effectiveness.

In sum, at the National Naval Medical Center, the Mowrer-type conditioning instrument has proven to be a useful treatment of nocturnal enuresis. The treatment not only has efficacy but also rarely causes side effects, requires a minimum of professional time, acts relatively rapidly, and has a low incidence of relapse. These qualities clearly indicate the superiority of the pad-and-buzzer system over either medication or psychotherapy in the treatment of enuresis.

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FIELD KIT FOR RAPID DIAGNOSIS . . . The Naval Health Research Center, San Diego, has developed and tested a portable counterimmunoelectrophoresis field kit for rapid diagnosis of meningococcal meningitis, streptococcal infections, and pneumococcal pneumonia. The kit provides a simplified system of rapid diagnostic bacteriology for Navy shipboard, field, and small-dispensary use. The unit has twice been tested in Africa for the specific diagnosis of cerebral meningitis, at the request of, and in cooperation with, the World Health Organization.

ORGAN TRANSPLANTS ON THE RISE . . . During the first six months of 1978, the Army-Navy Organ Transplant Service, located at Walter Reed Army Medical Center, performed more than 20 renal transplants and procured more than 30 cadaveric kidneys. Residents in urology and surgery from WRAMC, the National Naval Medical Center, and NRMIC Portsmouth, Va., have greatly benefited from this increased exposure to the problems of transplantation.

At the Naval Medical Research Institute, Bethesda, Md., the Organ Preservation Laboratory has begun new investigations into normothermic organ preservation, vascular prostheses, plasminogen activators, and graft rejection. On the clinical side, the organ preservation team has the capability of procuring donor organs anywhere in CONUS and has obtained three times the number of kidneys that were procured for transplantation in FY 1978.

TEACHERS FOR RESIDENCY TRAINING PROGRAMS SOUGHT . . . Officers desiring teaching positions in Navy residency training programs should submit curricula vitae to BUMED Code 31 to ensure that their most recent achievements are properly reviewed and recorded.

In this respect, all commanders and captains are encouraged to submit curricula vitae as changes take place in their career and professional development.

LCDRs' PROMOTION CHANCES UP . . . Medical Corps lieutenant commanders in the zone for commander have a better chance of advancement, thanks to a recent change from an 80% to a 90% promotion opportunity. The change will be implemented for the FY 1979 selection board, which convenes 31 Oct 1978.

HALOTHANE WARNING . . . Abuse and unauthorized use of the anesthetic halothane has resulted in the deaths of six Navy personnel in the last three years.

There is a great risk of cardiac arrhythmia and arrest when this drug is inhaled from a plastic bag, gauze sponge, bottle, or other makeshift container. Receipt, storage, and issuing of halothane, which is a controlled drug, should comply with Chapter 21 of the Manual of the Medical Department. Ships having halothane not authorized by the Authorized Medical Allowance List should destroy or turn it in at the nearest Navy medical facility ashore.

MOHCATS ORDERED . . . To improve delivery of audiometric testing services to the fleet and operational units, BUMED has begun procurement of an initial four mobile hearing conservation and audiometric trailers (MOHCATs).

The MOHCAT has successfully completed pilot-project evaluation at NRMIC Charleston, S.C. Each trailer is a self-contained audiometric testing facility that can be towed into position near the unit or activity to be served. The trailers are expected to augment current audiometric facilities that are now frequently overloaded, and to reduce the loss of productive man-hours entailed when crewmen or civilian workers must report for hearing tests to a fixed, distant medical facility.

Initial plans call for procurement of 18 MOHCATs over a five-year period.

AUDIT TIPS . . . The following discrepancies were noted on a recently completed audit:

- **Establishing an internal review function.** Command should establish an internal review function to ensure that procedures have been implemented to safeguard the financial integrity of the command, and to ensure that all available command resources are effectively utilized (SECNAVINST 7510.8).

- **Reviewing the ODCR.** There is a lack of adequate control over the timely and correct reporting of information into the MAPMIS. The Officer Distribution Control Report (ODCR), which is prepared monthly from MAPMIS data and forwarded to all activities, is not reviewed for accuracy. Command should ensure that personnel actions are reported correctly, in a timely manner; review the monthly ODCR upon receipt; and report inaccuracies to BUPERS for correction.

- **Accounting for identification cards.** The BUPERS Manual provides procedures to account for Armed Services Identification Cards (DD Form 2N), including a record of issuance in a permanent log and documentation of issuance in the recipient's service record. NAV-REGMEDCEN must control and document issuance of identification cards in accordance with Article 4621050 of the BUPERS Manual.

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